

## ABSTRACT

The present invention provides a complex hydride (such as  $\text{LiBH}_4$  or  $\text{LiNH}_2$ ) of a lightweight metal thin film having a low melting point, and to a method for manufacturing the same, and the present invention relates to a method for manufacturing a thin film of a complex hydride having a nano structure, by vapor deposition, using as raw materials one or more metals selected from among lightweight metals having a low melting point (such as Li, Na, Mg, K, and Ca) and one or more elements selected from among nitrogen, carbon, boron, and aluminum, and to a light element complex hydride thin film, and with the method of the present invention, it is possible conveniently to form a thin film of a complex hydride of a lightweight metal having a low melting point, and a complex hydride thin film thus formed is useful, for example, as a multi-functional material having superconductivity, optical characteristics, hydrogen storage characteristics, and the like.